

APPENDIX D

CONSUMPTION ANALYSIS WORKSHEET AND INSTRUCTIONS

CONTRACT NUMBER: _____

ASSEMBLY AND/OR PART NUMBER: _____

NOMENCLATURE: _____

SECTION A - PLANNED MATERIAL REQUIREMENTS

1. Quantity of Part Number Required per the Next Higher Assembly _____ *
 2. Quantity of the Next Higher Assembly Required by the Contract: _____
(Use best estimate and/or MRL for overhaul and repair contracts)
 3. Determine the Net Quantity Required (Line 1 X Line 2) _____ *
 4. Planned Mortality and/or Scrap and/or Attrition and/or
Usage Variance Factor (Percent) _____ % *
 5. Projected Mortality Quantity (Line 3 X Line 4) _____ *
 6. Total Projected Requirements (Line 3 + Line 5 for production contracts) _____
- (Use historical data, if available, for overhaul and repair contracts when a bill of material or material requirements list is not available)

SECTION B - QUANTITY ACQUIRED

7. Quantity Received or Transferred for Use on Contract _____
8. Quantity on Order Due In _____
9. Quantity Projected for Future Acquisition Under the Contract _____
10. Quantity Rejected or Pending Material Review Board _____
11. Quantity Transferred from Contract _____
12. Net Quantity Acquired (Lines 7 + 8 + 9-10- 11) _____

SECTION C - CONSUMPTION

13. Quantity Consumed Within the Next Higher Assembly
(including scrap) _____
14. Number of Higher Assemblies Produced and/or Repaired to Date
for the Contract _____
15. Actual Consumption Rate per Higher Assembly
(Line 13 divided by Line 14) _____

* Items 1, 3, 4, 5, & 17 MAY NOT BE APPLICABLE TO OVERHAUL AND/OR REPAIR CONTRACTS WHEN A BILL OF MATERIALS OR MRL IS NOT AVAILABLE.

SECTION D - EXTENT OF EXCESSIVE ACQUISITION AND/OR CONSUMPTION

16. Projected Requirements for Contract Based on Current
Consumption Rate (Line 2 X Line 15) _____
17. Quantity authorized by DD Form 610, when applicable _____ *
18. Quantity Acquired That Exceeds Authorization or Projected Requirements
(Line 12- Line 17 for DD 610 items) (Line 12- Line 6 for others)
(If less than 1, enter N/A) _____
19. Actual or Projected Excessive Acquisition Due to Variance Between
Planned and Actual Consumption (line 6- Line 16)
(Note: Negative Number Indicates Possible Over Consumption
that must be separately explained but not used to compute Line 21) _____
20. Quantity in Line 18 and 19 which is Justified (Such as inventory
losses for which the contractor is not liable) (Provide explanation) _____ #
21. Unjustified Actual or Projected Excessive Acquisition
(Line 18 + 19- 20) _____
22. Projected Dollar Impact (Line 21 X Unit Price of Item) _____

Item 20 should consider pushed GFM in excess of quantities authorized by DD Form 610.

SIGNATURE OF EVALUATOR

DATE

INSTRUCTIONS FOR USING THE CONSUMPTION ANALYSIS WORKSHEET

1. The Consumption Analysis Worksheet is intended to provide a standardized technique for determining the reasonableness of consumption of Government Furnished Materials (GFM) and Contractor Acquired Materials (CAM) that are subject to a Government property clause.
2. It is recognized that consumption analyses are more effective on production efforts where the consumption rates are projected and can be analyzed than on other contracts. For example, on research and development (R&D) contracts, consumption analyses are often highly subjective since material requirements are primarily developed based on engineering estimates. On overhaul and repair (O&R) contracts, materials are consumed as needed, thus making the materials requirements planning process susceptible to error. The consumption analysis worksheet is based on data generally available and required for production contracts. Several data elements do not apply or must be subjectively developed for nonproduction effort.
3. The worksheet will identify and document cases in which quantities of GFM have been acquired in excess of their contractual authorization. In addition, the worksheet identifies variances in consumption rates for both GFM and contractor-acquired materials that could indicate either excessive acquisition or consumption. Obviously, the ultimate determination of over consumption is consumption of all planned materials before completion of contract effort. Similarly, the extent of possible over acquisition is difficult to quantify until the contract reaches completion. Analyses are prone to error until accurate consumption rates can be determined. Thus, analyses during the start up portion of a contract must be considered as preliminary at best, and possibly inaccurate, at worst.
4. Instructions for completion of the worksheet:

- a. Section A of the worksheet (Planned Material Requirements) is intended to document the quantity of an item of material that the contractor projects will be needed to complete a contract. For production contracts, bills of material are the primary source of information pertaining to requirements planning. For R&D or O&R contracts, estimates must be made based on engineering judgment, material requirements lists, past history, or other available information.

Step 1 of the worksheet documents the quantity of the item of material that is planned for incorporation into the next higher assembly. This is based on bill of material data in most cases. In the event that an item of material is used on two or more higher assemblies, Sections A and C of the worksheet must be completed for each higher assembly that uses the part on the contract. Step 1 may apply to some nonproduction contracts based on engineering estimates or past history.

Step 2 is the quantity of the next higher assembly required for the contract. Once again, this is most meaningful on production contracts where the manufacturing requirements are fully defined, Engineering estimates or material requirements lists may exist for R&D contracts, and

historical data may provide the best source of this information for O&R contracts.

Step 3 is simply the multiplication of the quantities from steps one and two to determine material requirements without consideration of scrap or mortality factors. This step will not apply to all R&D or O&R contracts.

Step 4 provides for acquisition of additional materials based on projected scrap factors. These should be developed based on past historical data, when available. The evaluator should question scrap factors that appear excessive. This factor should be entered on the form as a percent of net requirements.

Step 5 computes the amount of materials that are projected based on the scrap and/or mortality factor from line 4. This quantity must be added to the net requirements in determining total material requirements.

Step 6 provides an estimate of total material requirements for the item being reviewed based on quantity required per higher assembly, number of higher assemblies, and projected scrap rates. It is the sum of items 3 and 5. For R&D or O&R contracts without firm material requirements, use the best available estimate of material requirements for the contract. When desired, include "nest" to denote the fact that a highly subjective number has been used.

b. Section B of the worksheet (Quantity Acquired) provides a summary of past, present, and projected acquisitions for the item being reviewed. Obviously, excessive acquisition is more readily visible during the latter part of a contract than early in the contract when quantities to be acquired are subject to revision.

Step 7 is the quantity of the item being checked that has been received or transferred to the contract from other contracts. Include all quantities, whether ultimately accepted, rejected, or transferred out.

Step 8 is the quantity on order that has not yet been received.

Step 9 is the quantity planned for future orders to satisfy contract requirements. This is needed to project total acquisitions for the contract.

Step 10 provides a means of identifying quantities of an item that are rejected or pending review. This information is especially valuable to highlight quality problems associated with delivery of GFM. If GFM does not meet specifications, then the CO must initiate action to repair or replace the faulty materials.

Step 11 shows the quantity of the item transferred from the contract for use on other contracts. This is one obvious method of reducing the impact of acquisitions found to be excessive. If records show large quantities of materials ultimately transferred from the contract, the evaluator should determine the cause for the high rate and ensure that Government contracts are not

commonly used as the mechanism to acquire materials actually intended for other contract efforts.

Step 12 is the net quantity of materials acquired to date or projected for acquisition against the contract. It is the sum of lines 7, 8, and 9 minus lines 10 and 11. If the quantity acquired exceeds total projected requirements (line 6), then the potential for excessive acquisition exists. However, consumption rates must be considered before making conclusions in this area.

c. Section C (Consumption) provides a mechanism for comparison of planned against actual consumption data. This produces a revised projection of material requirements for the contract.

Step 13 is the quantity of material consumed within the next higher assembly. This quantity may be available from manufacturing records, or it may be necessary to total the issue documents for the materials being reviewed and reduce this amount by the stock of the materials in the production area that have not been used. Quantity scrapped should be included in this figure.

Step 14 is the number of higher assemblies produced or repaired to date for the contract. This data will generally be obtained from production records.

Step 15 is the actual consumption rate for the item being checked which is determined by dividing the quantity consumed (line 13) by the number of higher assemblies produced (line 14).

Step 16 is a projection of contract requirements based on actual consumption rates. It is computed by multiplying the consumption rate per higher assembly (line 15) by the total number of higher assemblies required for the contract (line 2). If it is significantly different from the original planned requirements (line 6), then the potential for excessive acquisition or over consumption is indicated.

d. Section D (Extent of Excessive Acquisition and/or Consumption) is the mechanism for concluding whether or not excessive acquisition or consumption is indicated. Once again, data is more conclusive on contracts nearing completion than on contracts starting up. However, the worksheet provides a mechanism for conclusions based on the best available information.

Step 17 is included to readily identify quantities of GFM that exceed contractual authorizations. This step is the quantity of the item being checked that is authorized by the DD Form 610 (The Department of Defense Government Furnished Equipment Requirement Schedule). This line obviously "does not apply to contractor-acquired materials."

Step 18 is a simple comparison of quantities acquired (line 12) against quantities authorized by DD Form 610 (line 17) or against projected requirements for other items (line 6). Obviously, if acquisition exceeds authorization or planned requirements, further explanation is needed. The reasons for these situations need to be fully identified and documented. If neither of these

conditions exists, enter “N/A” on line 18.

Step 19 compares actual consumption rates against projected rates to identify possible excessive acquisition or over consumption. When reliable consumption rates are available, significant variances between planned and actual consumption rates are indicators of potential for excessive acquisition (positive number in line 19), or for over consumption (negative number in line 19). The contractor should be tracking consumption rates and **reducing** projected requirements where the planned rates are found to be overstated. If consumption rates are not available so state. This may be the case during the initial part of contract performance. If line 19 is negative, provide a separate explanation of the nature or potential for over consumption and any actions that are required to correct the condition. However, do not use a negative number in Line 19 to compute Line 21.

Step 20 provides the evaluator the opportunity to identify mitigating factors and to consider whether the data collected is conclusive or inconclusive. If data is inconclusive, and ~~the~~ contractor is able to justify its position, the evaluator should reduce the quantity of potential over acquisition from lines 18 or 19. If line 19 suggests over consumption (negative value), which the evaluator **feels** is justified or inconclusive, enter “see remarks” in line 20 and provide a separate explanation.

Step 21 summarizes the extent of excessive acquisition that is considered to be conclusive by the evaluator.

Step 22 projects the dollar impact of unjustified excessive acquisition.